United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Mother Lode Field Office
5152 Hillsdale Circle
El Dorado Hills, CA 95762-5713
www.blm.gov/ca/motherlode

French, Scotch and Spanish broom treatments along Priest Grade (CA-180-14-12)
Finding of No Significant Impact
April 2014

It is my determination that this decision will not result in significant impacts to the quality of the human environment. Anticipated impacts are within the range of impacts addressed by the Sierra Resource Management Plan (RMP). Thus, the proposed action does not constitute a major federal action having a significant effect on the human environment; therefore, an environmental impact statement (EIS) is not necessary and will not be prepared. This conclusion is based on my consideration of CEQ's following criteria for significance (40 CFR §1508.27), regarding the context and intensity of the impacts described in the EA and based on my understanding of the project:

1) Impacts can be both beneficial and adverse and a significant effect may exist regardless of the perceived balance of effects. Potential impacts would include the mortality of targeted invasive plants, some mortality of nearby non-target vegetation through overspray and limited soil disturbance through hand-pulling of weeds.

2) The degree of the impact on public health or safety. To minimize risks to occupational and public receptors from exposure to herbicides, implementation of the Proposed Action would follow the Project Design Features and Mitigations included in the EA.

3) Unique characteristics of the geographic area. The project area does not contain any unique characteristics.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial effects. No anticipated effects have been identified that are scientifically controversial. As a factor for determining within the meaning of 40 C.F.R. § 1508.27(b)(4) whether or not to prepare a detailed environmental impact statement, "controversy" is not equated with "the existence of opposition to a use." *Northwest Environmental Defense Center v. Bonneville Power Administration*, 117 F.3d 1520, 1536 (9th Cir. 1997). "The term 'highly controversial' refers to instances in which 'a substantial dispute exists as to the size, nature, or effect of the major federal action rather than the mere existence of opposition to a use.'" *Hells Canyon Preservation Council v. Jacoby*, 9 F.Supp.2d 1216, 1242 (D. Or. 1998).

5) The degree to which the possible effects on the human environment are likely to be highly uncertain or involve unique or unknown risks. The analysis does not show that the proposed action would involve any unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The proposed action is not precedent setting.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. No significant site specific or cumulative impacts have been identified. The proposed action is consistent with the Sierra RMP.

8) The degree to which the action may adversely affect National Historic Register listed or eligible to be listed sites or may cause loss or destruction of significant scientific, cultural or historical resources. All activities that could negatively affect cultural properties will be avoided. The proposed action would not adversely affect cultural properties listed on or eligible for the National Register of Historic Places.

9) The degree to which the action may adversely affect ESA listed species or critical habitat. Valley elderberry longhorn beetle (VELB) *(Desmocerus californicus dimorphus)* is listed as threatened under the Federal Endangered Species Act. This species is an obligate specialist on blue elderberry (*Sambucus mexicana*) which was found in two proposed treatment areas within the project. Therefore, the following project design features have been developed to prevent impacts to elderberry during weed treatments:

- Backpack spraying of broadleaf herbicide for target plants greater than 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
- Cut stump and swipe targeted application of broadleaf herbicides for target plants between 5 feet and 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
- Hand pulling, including weed wrenches, of target plants within 5 feet of elderberry shrubs with stems greater than 1 inch in diameter at ground level.

10) Whether the action threatens a violation of environmental protection law or requirements. There is no indication that the proposed action will result in actions that will threaten such a violation.

_____ _____

William S. Haigh Date
Field Manager,
Mother Lode Field Office

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Mother Lode Field Office
5152 Hillsdale Circle
El Dorado Hills, CA 95762-5713
www.blm.gov/ca/motherlode

EA Number: CA-180-14-12

Proposed Action: French, Scotch and Spanish broom treatments along Priest Grade

Location: BLM-administered land within T 1 S, R 15 E Sec. 25, 26, 27; and T 1 S, R 16 E, Sec. 30, 31 – Tuolumne County.

1.0 Purpose of and Need for Action

1.0 Introduction

The proposed IWM plan is needed to reduce the adverse impacts associated with an increase in noxious and invasive weeds within the project area. The plan would be implemented in accordance with Federal and State laws, regulations, and policies, and the Sierra Resource Management Plan. This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental impacts of the invasive plant management as proposed by the Mother Lode Field Office. The EA is a field office site-specific analysis of potential effects that could result with the implementation of the Proposed Action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27.

An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A Decision Record, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects) beyond those already addressed in the Sierra Resource Management Plan (February 2008).

1.1 Background

Invasive plants are defined as "non-native plants whose introduction does or is likely to cause economic or environmental harm or harm to human health," based on the definition provided in Executive Order 131121[1]. Invasive plants are compromising the ability to manage BLM lands for a

[1] EXECUTIVE ORDER 1311 INVASIVE SPECIES (1999) - directs federal agencies to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that

healthy native ecosystem. Invasive plants can create a host of environmental and other effects, most of which are harmful to native ecosystem processes, including: displacement of native plants; reduction in functionality of habitat and forage for wildlife and livestock; increased potential for soil erosion and reduced water quality; alteration of physical and biological properties of soil; loss of long-term riparian area function; loss of habitat for culturally significant plants; high economic cost of controlling invasive plants; and increased cost of keeping systems and recreational sites free of invasive species.

Integrated pest management[2] methods for invasive species control that will be analyzed in this EA include the following:

Chemical - Herbicides are chemicals that kill or injure plants. Herbicides can be categorized as selective or non-selective. Selective herbicides kill only a specific type of plant, such as broad-leaved plants, while non-selective herbicides kill all types of plants.

Physical - Manual treatment involves the use of hand tools and hand-operated power tools to cut, clear, or prune herbaceous and woody species. Treatments include cutting undesired plants above the ground level; pulling, grubbing, or digging out root systems of undesired plants to prevent sprouting and re-growth; cutting at the ground level or removing competing plants around desired species; or placing mulch around desired vegetation to limit competitive growth.

1.2 Purpose and Need for the Action

The need for the action is to reduce and control populations of French broom (*Genista monspessulana*), Scotch broom (*Cytisus scoparius*) and Spanish broom (*Spartinum junceum*) on BLM lands along the Highway 120/Priest Grade corridor from the town of Moccasin east to Big Oak Flat. The BLM would like to implement a combination of physical and chemical control methods for this area. Brooms are highly competitive and will grow rapidly and form dense stands that most wildlife find impenetrable and unpalatable because the leaves and seeds are toxic. The dense populations make regeneration of most other plant species difficult or impossible. Broom changes the structure of the invaded plant community, often increasing fire hazards by creating a "ladder" of woody material that can carry fire into trees (Cal-IPC 2012).

The California Invasive Plant Council (Cal-IPC) would most likely be funding the treatment work through grant money provided by the Sierra Nevada Conservancy and the National Fish and Wildlife Association. The County Department of Agriculture would likely be contracted to provide the on-the-ground control work. The vision of this project is to treat the entire population of broom throughout the region on Federal, State, County and private lands to prevent the brooms from spreading further east into the Stanislaus National Forest and ultimately into Yosemite National Park.

---

invasive species cause.

[2] INTEGRATED PEST MANAGEMENT - a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks (DOI Departmental Manual 517).

1.2 Conformance with Applicable Land Use Plans

The proposed action is consistent with the Sierra Resource Management Plan Record of Decision (ROD), approved in February 2008. In Section 2.4 of the ROD for Vegetative Communities, it lists the following objectives: 1) Manage vegetation (including invasive species removal) to improve habitat conditions for particular wildlife species; and, 2) Control invasive species and increase native plant species using early detection, rapid response, and prevention measures.

Section 2.4 also lists the following management actions:

> Prevent, eliminate, and/or control undesired non-native vegetation or other invasive species using an Integrated Pest Management approach that combines biological, cultural, physical, and chemical tools to minimize economic, health, and environmental risks.
>
> Use prescribed fire, mechanical mastication, herbicides, manual removal, seeding, propagation, and planting or combinations of these methods to promote healthy, diverse vegetation communities.
>
> Implement and meet national BLM policies consistent with the Partners Against Weeds Initiative and Executive Order 13112.

1.6 Tiering to the Bureau-wide Programmatic Vegetation EIS

This EA tiers to the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) (BLM 2007a), which analyzed the impacts of using herbicides (chemical control methods) to treat invasive plants on public lands. In addition, this EA incorporates by reference the Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report (PER) (BLM 2007b), which evaluated the general effects of non-herbicide treatments (i.e., biological, physical, cultural, and prescribed fire) on public lands. The PEIS identifies impacts to the natural and human environment associated with herbicide use and appropriate best management practices (BMPs), standard operating procedures (SOPs), mitigation measures, and conservation measures for avoiding or minimizing adverse impacts. The PER describes the environmental impacts of using non-chemical vegetation treatments on public lands.

The PEIS identifies priorities including protecting intact systems; maintaining conditions that have led to healthy lands; and applying mitigation measures to minimize soil and vegetation disturbance and avoid introductions of invasive species. Vegetation treatment priorities identified in the PEIS (pg. 2-7) include:

- Use effective nonchemical methods of vegetation control where feasible.
- Use herbicides only after considering the effectiveness of all potential methods.

Several management objectives in the PEIS (pg. 2-7) are considered when determining appropriate treatment of an infestation:

- Containment to prevent weed spread from moving beyond the current infestation perimeter;
- Control to reduce the extent and density of a target weed;
- Eradication to completely eliminate the weed species including reproductive propagules (this is usually only possible with small infestations).

1.3 Relationship to Statutes, Regulations, and Plans

The Mother Lode Field Office has prepared this IWM Plan in compliance with Department of Interior (DOI) and BLM policy and manual direction, including **DOI Manual 517 (*Integrated Pest Management*)** and **BLM Manual Section 9015 (*Integrated Weed Management*)**.

Several Federal laws, regulations, and policies guide BLM management activities on public lands. The ***Federal Land Policy and Management Act of 1976*** **(FLPMA)** directs the BLM to manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values." The ***Carlson-Foley Act of 1968*** and the ***Plant Protection Act of 2000*** authorize and direct the BLM to manage noxious weeds and to coordinate with other Federal and state agencies in activities to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on Federal lands.

The ***Endangered Species Act of 1973 (ESA)*** requires federal agencies to complete formal consultation with the U.S. Fish and Wildlife Service (FWS) for any action that "may affect" federally listed species or critical habitat. The ESA also requires federal agencies to use their authorities to carry out programs for the conservation of endangered and threatened species.

The ***Federal Noxious Weed Act of 1974*** established and funded an undesirable plant management program, implemented cooperative agreements with state agencies, and established integrated management systems to control undesirable plant species. The ***Noxious Weed Control Act of 2004*** established a program to provide assistance through states to eligible weed management entities to control or eradicate harmful and non-native weeds on public and private lands. **Executive Order 13112, *Invasive Species***, directs Federal agencies to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause (BLM 2007a).

The BLM has also produced national-level strategies for invasive species prevention and management. These include ***Partners Against Weeds*** (BLM 1996), which outlines the actions BLM will take to develop and implement a comprehensive integrated weed management program; and ***Pulling Together: National Strategy for Invasive Plant Management*** (BLM 1998), which illustrates the goals and objectives of a National invasive plant management plan (prevention, control and eradication). The Federal Interagency Committee for the Management of Noxious and Exotic Weeds is leading a national effort to develop and implement a ***National Early Detection and Rapid Response System for Invasive Plants in the United States*** (FICMNEW 2003). The primary long-term goals of the proposed system are to detect, report, and identify suspected new species of invasive plants in the United States.

The EPA regulates pesticides (including herbicides) under the ***Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1972*** as amended in 1988. This Act establishes procedures for the registration, classification, and regulation of all pesticides. Before any herbicide may be sold legally, it must be registered by the EPA. The EPA may classify a pesticide for general use if it determines that it is not likely to cause unreasonable adverse effects to applicators or the environment. A pesticide that is classified for restricted use must be applied by a certified applicator and in accordance with other restrictions.

2.0 Proposed Action and Alternatives

2.1 Proposed Action

BLM would take an integrated weed management approach to control invasive plants in the project area, specifically French, Scotch and Spanish broom. The main project area includes BLM lands along Highway 120 (Priest Grade) from Moccasin east to Big Oak Flat. During weed surveys and mapping conducted in 2013 by Cal-IPC, the County Department of Agriculture, BLM and the Forest Service, five populations of broom were found to occur on or directly adjacent to BLM lands along this stretch of highway. One population was quite extensive and covered approximately ½ acre, two populations were approximately ¼ acre in size and the remaining two populations contained only one plant each. The total treatment area would not exceed five acres. Since brooms have such a long-lived seed bank, retreatment following the initial treatment could occur annually for up to five years to control regrowth, plants that were initially missed, and new seedlings. Many other broom populations were found on Forest Service, County, State and private lands in the area and while they are not covered under this EA, they will be treated by Cal-IPC and the County in 2014 along with the populations on BLM lands.

Broom Control Methods:

The two primary methods for managing brooms are manual removal and treatment with herbicides. For small populations of broom (i.e., 10 plants or fewer), a combination of manual methods may be used including hand pulling using a weed wrench during spring or fall when soil is moist or lopping the broom at ground level during the summer/dry season. Studies have shown that cutting broom at ground level during droughty periods will result in the highest plant mortality rate (Oneto et al. 2010). Manual control methods would be used on a limited basis as this method requires much more labor and is therefore not as cost-effective as chemical treatments.

Larger populations of broom would likely be treated with a combination of manual control and herbicides. The most effective herbicides for controlling brooms are triclopyr and glyphosate (Oneto 2009). Herbicide treatments could include cutting the broom at ground level and applying glyphosate to the cut stump portion, applying triclopyr (ester formulation) to the basal bark areas of broom plants, and applying a "drizzle" application using glyphosate. The "drizzle" technique is useful in situations of dense vegetative cover or where access is limited (Oneto 2009). This method uses a higher concentration of herbicide which is applied at a lower volume, and the herbicide is uniformly "drizzled" over the target species using a spray gun.

Most of the herbicide work would be done with backpack sprayers; however, for large populations with easy access from the road, a truck-mounted sprayer would be used. The truck-mounted system would consist of a 100 gallon tank mounted on a 1-ton pick-up truck with a pump and one or two 300 to 600-foot long hoses that connect to hand wands. The hoses are narrow diameter and high pressure so that they are lighter in weight and have enough pressure to reach far up or down hill. Each hose has only one hand wand that the operator activates as he/she walks the treatment area. There is no "boom" on the truck. In both cases, operators will be using a directed application method that will greatly limit any non-target applications.

Glyphosate, most likely Roundup Pro, would be applied as a cut stump treatment or "drizzle" technique and would be used at a 10% solution. Triclopyr ester, most likely Garlon 4 Ultra, would be applied at a 10% solution for basal bark applications. All herbicide treatments would occur in late

spring or early fall. Herbicide treatments would occur once a year, possibly up to five years, until infestations were small enough that manual and mechanical control methods were adequate.

Herbicide treatments would comply with the U.S. Environmental Protection Agency label directions and follow BLM procedures outlined in BLM Handbook H-9011-1 (*Chemical Pest Control*) and BLM Manual Sections 1112 (*Safety*), 9011 (*Chemical Pest Control*), and 9015 (*Integrated Weed Management*) and meet or exceed State label standards. Herbicide applications would adhere to all State and Federal pesticide laws. All applicators that apply herbicides in the project area (i.e., certified applicators or those directly supervised by a certified applicator) would comply with the application rates, uses and handling instructions on the herbicide label, and where more restrictive, the rates, uses, and handling instructions developed by the BLM.

2.2 Project Design Features

- To avoid any exposure of the public to spray drift, the spray areas will be posted with "spraying, do not enter" signs on the day of spraying and restricted entry intervals specified by the herbicide label will be observed.

- To avoid drift of the spray mix reaching surface water, a 10' no-spray buffer will be observed around any open water during hand-application of non-aquatic herbicide formulations, per BLM PEIS specifications. Manual methods or the hand-application of the aquatic formulation of glyphosate will be used for weed control in the buffer zone.

- To avoid drift, spraying will not occur if wind speeds exceed 10 mph.

- No spraying will occur if rain is predicted within 24 hours of the time of spraying.

- Mixing and loading operations will be conducted a minimum of 100' from any body of water, and there will be provisions for spill containment at the loading/mixing site.
- Protective equipment as directed by the herbicide label will be used.
- A copy of Material Safety Data Sheets will be kept at work sites.
- Herbicide labels will be followed for use and storage.

- Avoid ground disturbance in areas identified by the BLM archaeologist as sensitive.

- To comply with the Federal Endangered Species Act, and to reduce the impacts of the action to a may affect, but not likely to adversely affect level to valley elderberry longhorn beetle, a federally threatened species, the following design features must be incorporated:

    1) Backpack spraying of broadleaf herbicide for target plants greater than 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
    2) Cut stump and swipe targeted application of broadleaf herbicides for target plants between 5 feet and 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
    3) Hand pulling, including weed wrenches, of target plants within 5 feet of elderberry shrubs with stems greater than 1 inch in diameter at ground level.

2.3 No Action

Under the No Action alternative, broom treatments would not occur because neither the use of physical nor chemical control methods would be authorized. Without the ability to treat these invasive plants, populations would continue to spread and degrade native habitat. Wildlife would be affected through lack of habitat and forage and native plants would continue to be outcompeted.

2.4 Alternatives Considered but Eliminated from Detailed Analysis

An Alternative which included manual control of broom but would not allow for chemical control was considered but eliminated. The use of only manual control would be much less cost-effective due to the increased amount of labor required. The money allotted for the project to treat the entire broom population in the region would not be adequate to treat all populations on BLM lands using only manual control. This would result in the treatment of some populations while leaving some untreated which would allow for a continued weed seed source into the future and would likely result in new broom infestations.

3.0 Affected Environment

The following critical elements have been considered for this environmental assessment, and unless specifically mentioned later in this EA, have been determined to be unaffected by the proposal: air quality, Area of Critical Environmental Concern (ACEC), environmental justice, fire/fuels, fisheries, hazardous waste, prime/unique farmlands, recreation, wild and scenic rivers and wilderness.

Cultural Resources

Cultural resources are typical for the elevation, vegetation, etc. in the west-central Sierra Nevada. The area is not far from the heart of the Big Oak Flat mining district. Both gold mining occurred within the district beginning during the Gold Rush of the late 1840s and 1850s and lasted well into the 1900s. Ditches, prospects, and other mining-related features are common in the area. The project area is also located near the Hetchy Hetchy Aqueduct/Moccasin Powerhouse. This still-active water and power project was authorized by Congress in 1913 and was built during from 1914-1934 (with later developments) to generate electricity for, and convey water from the upper Tuolumne River (Hetchy Hetchy Reservoir within Yosemite National Park) to, towns and cities in the San Francisco Bay Area. Construction of the project was facilitated by the Hetch Hetchy Railroad, built between 1916-1917 and entirely abandoned shortly after World War II. The route of the railroad is located in the Moccasin/Priest Station/Big Oak Flat area.

Human Health and Safety

Physical Control – Treating broom by pulling with a weed wrench would not affect human health or safety. The use of loppers to remove broom at ground level could pose a threat to the safety of the user if appropriate precautions were not taken.

Chemical Control – Use of herbicides for control of invasive plant species poses some potential risk of adverse impacts on human health and safety. Therefore, the PEIS (BLM 2007a) included a Human Health Risk Assessment (HHRA) to evaluate herbicide use on public lands. The HHRA addressed occupational receptors (who mix, load, transport, and apply herbicides) and public receptors (e.g., hikers, hunters and residents).

Hydrology and Water Quality

Rattlesnake and Grizzly Creeks are found in the project area. Grizzly Creek lies between Old and New Priest Grade, at the bottom of two steep ravines. Rattlesnake Creek runs below Highway 120 where it tops out at the pass and where Old and New Priest Grade merge and continue on to Big Oak Flat. They are fairly small riparian systems.

Invasive Species

Invasive weeds known to occur in the project area are French and Spanish broom. Scotch broom was not found in the project area during weed surveys; however, it has been included in this EA because it typically co-occurs with other broom species and if found, would be treated using the same control methods. As mentioned previously, mapping conducted in 2013 located four populations of French and Spanish broom on BLM lands in the project area. Populations range in size from one plant to approximately ½ acre in size.

Brooms are a group of shrubs introduced to North America from Europe in the mid-1800s. They are highly competitive and will grow rapidly and form dense stands that most wildlife find impenetrable and unpalatable. The dense populations make regeneration of most other plant species difficult or impossible. Brooms are perennial shrubs that grow from three to ten feet tall. They generally produce bright yellow, pea-shaped flowers on green stems from April to June. Scotch broom produces flowers in the leaf axils, whereas French and Spanish broom has flowers at the branch tips. Leaf shape can also identify the species. Spanish broom produces simple leaves while the other two brooms have mostly trifoliate leaves. The brooms are also differentiated by seed pods and branches. Scotch broom has a five-angled stem, French broom an eight- to ten-angled stem, and Spanish broom has a finely ribbed stem making it nearly round. The seed pods on Scotch broom have hair only along their margins instead of all over as on French broom. Spanish broom seed pods have very few long hairs, if any (Oneto 2009).

Broom seed pods, when ripe, burst open explosively and propel seeds up to 12 feet from the plant. Starting in the second year of growth, seed production is prodigious; in a single square-meter plot, researchers have counted more than 6,700 seeds. Furthermore, the seeds persist, remaining viable for at least 5 years and potentially for decades. Broom seeds often germinate with early winter rains, establishing a flush of new seedlings from December through July. Dense stands of broom change the structure of the invaded plant community, often increasing fire hazards by creating a “ladder” of woody material that can carry fire into trees. Brooms provide poor forage for native wildlife. The leaves and seeds are toxic. As nitrogen-fixing legumes, they can enrich soil nitrogen, which in turn can promote the growth of other weedy plant species once the broom has been removed (Cal-IPC 2012).

Soils

The soils within the project area are derived from argillite and quartzite. Soils that have developed under chaparral are typically shallow to moderately deep. Surface textures are commonly loam, silt loam, or sandy loam with coarse fragments ranging from 5 to 60 percent consisting of gravels, stones, boulders and flagstones. Erosion hazards are severe due to long steep slopes. There are areas of exposed bedrock typically on the shoulders of steep slopes.

Vegetation

A biological inventory of the surrounding area was conducted in 2013 by the BLM Botanist. The project area is dominated by chamise chapparal which includes chamise, whiteleaf manzanita, interior live oak, buckbrush and yerba santa. Some gray pines are scattered throughout the area. No rare plant habitat was present.

Visual Resources

The BLM manages this area in accordance with class III visual resource management (VRM) standards. BLM's objective for class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat basic elements found in the predominant natural features of the characteristic landscape.

Wildlife

A biological inventory of the weed treatment areas on BLM lands was conducted on February 24, 2014, by the BLM wildlife biologist. Three elderberry shrubs with stems greater than 1 inch diameter at ground level were found in two of the treatment areas. Valley elderberry longhorn beetle (VELB) is listed as threatened under the Federal Endangered Species Act. The beetle has only been found in association with its host plant, elderberry, which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley and associated foothills up to 3,000 feet. *Sambucus* can occur in several plant communities: riparian forest, savanna or grassland, oak woodland, and mixed chaparral-foothill woodland. There are known occurrences of elderberry shrubs within the project area. The VELB is more frequently encountered in riparian forest margin and elderberry savanna than other situations. Elderberry shrubs/trees with many exit holes are most often large, mature plants; young stands are seldom infested. The VELB seems to prefer stems for larval development and pupation which are larger than an inch or two in diameter. The beetle is most likely to occur in situations where plants are not isolated from one another.

Adults feed on the foliage and perhaps flowers, and are present from March through early June. During this period the beetles mate, and the females lay eggs on living elderberry plants. The female places the eggs singly or in small groups in bark crevices or at the junctions of stem/trunk or leaf petiole/stem. Presumably the eggs hatch shortly after they are laid. Larvae bore into the pith of larger stems and roots. When larvae are ready to pupate, they work their way up from the roots through the pith of the elderberry, open an emergence hole through the bark and return to the pith for pupation. The entire life cycle encompasses two years; however, the duration of each life stage is unknown. Adult emergence occurs at about the same time the elderberry flowers.

4.0 Environmental Effects

The following critical elements have been considered for this environmental assessment, and unless specifically mentioned later in this EA, have been determined to be unaffected by the proposal: air quality, Area of Critical Environmental Concern (ACEC), environmental justice, fire/fuels, fisheries, hazardous waste, prime/unique farmlands, recreation, wild and scenic rivers and wilderness.

4.1 Impacts of the Proposed Action and Alternatives

Cultural Resources

The BLM archaeologist is in the process of analyzing the proposed action to determine whether it would affect significant cultural resources, in accordance with Section 106 of the National Historic Preservation Act. The analysis will include a backgrounds record search, Native American consultation, and possibly limited fieldwork. Mechanical treatment is proposed and has some potential to negatively affect sensitive archaeological sites and features, such as prehistoric occupation sites with artifact deposits/midden, but the project area has extremely low potential for sensitive archaeological sites. The BLM has initiated Native American consultation by sending letters to local tribes to ascertain if they have any comments, questions, suggestions, or concerns regarding this proposed action. Of particular relevance were inquiries as to whether there were traditional collecting areas for plant materials in the project area. If traditional collecting sites are identified in the project area, the BLM will work with Native Americans to address any concerns. A no-spray zone may be established to avoid impacts to the habitat at the collecting site and to ensure the safety of the collectors. All sensitive cultural resources will be avoided.

Human Health and Safety

Physical Control - The risks to the operator from using a lopper would be minimized by wearing appropriate Personal Protective Equipment.

Chemical Control - Exposure risks to occupational receptors consist primarily of direct exposure (whether through the skin, inhalation, or incidental ingestion) by workers who mix, transport, or apply the herbicides. Greatest exposure doses are likely to be associated with mixing herbicides, pouring the contents into containers for use in application, and cleaning up any residue or minor spillage. An additional risk to applicators results from exposure via dermal contact, inhalation, or incidental ingestion while walking or riding/driving through an herbicide mist. Most occupational exposures result in temporary skin or eye irritation or in other short-term effects such as nausea, dizziness, or reversible nervous system abnormalities. Long-term effects are much less common but can include damage to organs, the nervous system, or the immune system and potentially inheritable mutations that can be passed on to offspring.

Both the short-term and long-term effects to occupational receptors can be greatly reduced by adherence to operational safety guidelines, use of protective clothing, equipment checks, and personal hygiene. BLM has attempted to minimize risks to applicators involved with herbicide treatments on public lands by specifying that their use be limited to certified herbicide applicators, except in a few special circumstances (e.g., spot applications to one or a few plants by trained BLM personnel using pre-mixed, consumer-grade herbicides). Professionals who are trained, experienced in handling chemicals, and use suitable personal protective equipment are much less likely to be exposed at potentially toxic levels than are those who use herbicides infrequently and may be unaware of the risks and how to minimize them.

Public receptors within the Project area consist would consist mostly of the public using the roads in the area. These receptors would be exposed less frequently and at much lower doses than would occupational workers who deal with herbicides regularly and at higher concentrations.

The HHRA portion of the PEIS (BLM 2007a) addressed a total 24 herbicide active ingredients, of which 18 are currently approved for use on BLM lands, including glyphosate and triclopyr. Risks to humans were evaluated in relation to both occupational and public receptors, based on the toxicity of

each compound and the assumed exposure dose under three assumed scenarios: routine exposure at typical application rates, routine exposure at maximum application rates, and accidental exposure. Routine exposure of workers consists of dermal contact, inhalation, and incidental ingestion while mixing or applying an herbicide. Accidental exposure of workers results from a spill or direct spray onto the skin. For public receptors, routine exposures result from typical uses of public lands that have been treated, or of both public and private lands onto which an herbicide has drifted. These exposures include dermal (skin) contact with foliage or surface water, inhalation of a pesticide mist, or ingestion of fruits onto which an herbicide has settled. Accidental exposures of the public include entering an area that is being or has recently been treated or (for some compounds) drinking water or eating fish from a waterbody into which the compound has been spilled.

The two herbicides proposed for use in the Project area - glyphosate and triclopyr - showed slight to very slight toxicity to humans and no carcinogenicity. Risks were generally rated as low to none for both receptor groups and all three exposure rates. The HHRA portion of the PEIS found no risks to humans from the inert ingredients associated with the herbicides, including adjuvants. To minimize risks to occupational and public receptors from exposure to herbicides, implementation of the Proposed Action would follow the Project Design Features.

Hydrology & Water Quality

Two small creeks, Grizzly and Rattlesnake, run through the project area. Water quality effects should be negligible for several reasons. Physical weed removal would only disturb small amounts of soil and should not result in increased erosion. Well-vegetated buffers between treated areas and water bodies would be left untreated so they can intercept herbicides and mobilized sediment, reducing the potential for these contaminants to reach surface water. To avoid drift of the spray mix reaching surface water, a 10 foot no-spray buffer will be observed around any open water during hand-application of herbicides, per BLM specifications. No spraying will occur if rain is predicted within 24 hours.

Treatment with chemicals would follow the Project Design Features listed in this EA. These measures would minimize the possibility of accidental contamination of water bodies and groundwater by herbicides due to runoff, drift, misapplication/spills, and leaching.

Drift will be minimized by applying the SOP that calls for canceling spraying when wind speeds exceed 10 miles per hour. Hand spraying itself minimizes drift by the low height at which the spray is released and the much lower volume of spray mix needed to only spray target plants.
Reducing the number of acres degraded by weed infestations would reduce sedimentation in water bodies, improve nutrient cycling, and help return the landscape to normal fire cycles (BLM 2007a).

Invasive Species

In general, vegetation treatments have the potential to affect most plant species in much the same way: All are intended to cause mortality or injury to target plants, which may vary in intensity and extent. Herbicides offer an effective and often resource-efficient means of treating and managing undesirable vegetation. Physical methods are often more time and labor intensive, and can create soil disturbance which can lead to additional weed establishment.

Eradicating and/or controlling weed infestations benefits native plant communities by decreasing the growth, seed production, and vigor of undesirable species, thereby releasing native species from much of this competition. However, if too little vegetation remains following treatment, other weeds

may invade the area. Native species which already occur along the perimeter of the occurrences should fill in the holes left after weeds are treated.

Soils

Manual techniques, both hand pulling and digging of plants with a tool, produce loosened soil that is subject to erosion. However, these techniques would be used primarily where the weeds are scattered, so only a small portion of the soil surface would be affected and the disturbance with these techniques is relatively shallow.

Herbicide applications may result in contact with soils, either intentionally for systemic treatments, or unintentionally as spills, overspray, spray drift, or windblown dust. Contact may also occur as a result of herbicide transport through plants to their roots where herbicide may be released into soil (BLM 2007a). The Proposed Action could also affect soil physical, chemical, and/or biological properties. These changes could include changes in soil structure (e.g., decreased percentage of fines), porosity, salinity, cation exchange capacity, microfaunal diversity, or organic matter content. However, the large majority of soil impacts resulting from the Proposed Action are expected to be positive; these would include the return of more stable soils, attenuated nutrient cycling, and a return to normal fire cycles (BLM 2007a). Over the long term, all treatments that remove invasive vegetation and restore native plants should enhance soil quality on public lands (BLM 2007a). For example, sites dominated by spotted knapweed display substantially higher surface runoff and stream sediment yield than sites dominated by native perennial grasses (Lacey et al. 1989).

All weed treatments would further benefit soil quality by reducing the risk of wildfire. Wildfires cause a loss of soil nutrients and the consumption of soil organic matter. Given the ability of severe wildfires to cover large areas, their impacts on soil quality could potentially be quite high.

Vegetation

Eradicating and/or controlling weed infestations benefits native plant communities by decreasing the growth, seed production, and vigor of undesirable species, thereby releasing native species from much of this competition. Herbicides could come into contact with and impact non-target plants through drift, runoff, wind transport, or accidental spills and direct spraying. Potential impacts could include one or more of the following: mortality, loss of photosynthetic foliage, reduced vigor, abnormal growth, or reduced reproductive output. In general, the effects of physical treatment methods would be minimal, both because of the low level of environmental impact of this method and the limited area in which manual use is feasible. Plants could be directly killed or injured by treatment or trampling by applicator personnel.

All weed treatments would likely affect plant species composition of an area and might affect plant species diversity. Elimination or reduction of brooms would benefit native plant communities by removing competition from weeds. This would provide more resources (e.g., water and nutrients) to native plants, allowing them to reestablish sites previously dominated by weeds. Because certain herbicides target broadleaf species, non-broadleaf species like grasses may begin to dominate the site, changing the species composition. The less a native plant community is disrupted by treatment, the more likely it would be to retain or regain characteristics that could resist weed invasion.

Triclopyr is a selective herbicide which targets only broadleaf plants while glyphosate is a non-selective herbicide. As such, it is likely to damage or kill most of the plants that are sprayed. By spot spraying with a wand, spray would be deliberately applied only to the invasive plants that are the target. Plants that are immediately adjacent would sometimes receive over-spray and some would be

damaged or killed. Native annuals hit by overspray would generally reoccupy much of the same habitat by the following growing season, because their persistent seed banks should be unaffected by the herbicides. Perennials would often recolonize their habitats the next growing season as well, although it would generally take these plants longer to reach full stature and maturity. Also, additional habitat would be opened up for native and non-native species when invasive plant cover is reduced through herbicide application.

Wildlife

Wildlife populations are found in areas and habitats where their basic needs—food, shelter, water, reproduction, and movement—are met. Many animals have special behaviors and physical traits that allow them to successfully compete with other animals in only one or a few habitats; many threatened and endangered species fall into this category. Less specialized species can use a wider range of habitats.

An important activity of the BLM is to manage vegetation to improve wildlife habitat. Plants, which are an important component of habitat, provide food and cover. Food is a source of nutrients and energy, while cover reduces the loss of energy by providing shelter from extremes in wind and temperature, and also affords protection from predators.

Wildlife may be harmed directly through contamination of food, water sources, habitat alteration, or direct contact. In general, field studies suggest that appropriate herbicide use is not likely to have significant direct toxicological effects on wildlife. However, some potential exists to individuals, populations, or species with both proper and improper use of chemical controls. Possible adverse direct effects to individual animals include death, damage to vital organs, change in body weight, decrease in healthy offspring, and increased susceptibility to predation.

The two herbicides to be used as part of the proposed action, glyphosate and triclopyr, were assessed in PEIS in relation to human health. Assuming that exposure risks to human receptors also apply to other terrestrial vertebrates, the following potential risks to wildlife species would be expected from use of these herbicides. The herbicides proposed for use in the Project area - glyphosate and triclopyr - showed slight to very slight toxicity to humans and no carcinogenicity. Risks were generally rated as low to none for both receptor groups and all three exposure rates. The HHRA portion of the PEIS (BLM 2007a) found no risks to humans from the inert ingredients associated with the herbicides, including adjuvants. These results indicate generally no or low risk of toxic effects from herbicides.

Adverse indirect effects include reduction in plant species diversity and consequent availability of preferred food, habitat, and breeding areas; decrease in wildlife population densities within the first year following application as a result of limited reproduction; habitat and range disruption if treated areas are avoided due to habitat changes; and increase in predation of due to loss of cover.

Because of the relatively low risk of toxicological effects to most wildlife even with direct spraying, it can be said that the main risk to wildlife from herbicide use is habitat modification. In forests, for example, herbicide use may result in minor and temporary effects on plant communities and wildlife habitats following single applications to young stands or stands following harvest, including some beneficial effects, but it usually results in a significant drop in forage the season following treatment. However, forage species and wildlife use of treated areas are likely to recover two to several years after treatment. Due to the small acreage to be treated, this impact will be negligible to wildlife.

The extent of direct and indirect impacts to wildlife would vary by the effectiveness of herbicide treatments in controlling target plants and promoting the growth of native vegetation, as well as by

the extent and method of treatment. The impacts of herbicides on wildlife would depend on the sensitivity of each species to the particular herbicides used, the pathway by which the individual animal was exposed to the herbicide, and indirectly on the degree to which a species or individual was positively or negatively affected by changes in habitat. Species that reside in an area year-round and have a small home range (e.g., insects, small mammals, territorial birds), would have a greater chance of being directly adversely impacted if their home range was partially or completely sprayed because they would have greater exposure to herbicides—either via direct contact upon application or indirect contact as a result of touching or ingesting treated vegetation. In addition, species feeding on animals that have been exposed to high levels of herbicides would be more likely to be impacted, particularly if the herbicide bioaccumulates in their tissues.

Factors that reduce the potential for impacts include: (1) Because of the use of spot spraying and the patchy distribution of the brooms, the acute consumption of sprayed vegetation or insects by wildlife is highly unlikely. In almost all cases the herbivore or insectivore would consume some sprayed food items and a much greater quantity of unsprayed food items, because only a small proportion of the area would be sprayed. Because of the use of typical rather than maximum application rates, even if there were acute consumption of sprayed food items there would be low risk to these animals. (2) Some bees and other small animals may be sprayed directly. As noted above, because of the use of typical rather than maximum application rates, there would be low risk to the individuals of these species that are sprayed at these concentrations. And because of spot spraying, only a small fraction of the local population of these species would be contacted by spray. Only those animals that are in exposed positions in the immediate vicinity of the broom, and that don't disperse when the applicator arrives, are likely to be sprayed.

The ecological effects of broom invasions have been studied. They have been shown to displace native vegetation. Unlike the native vegetation it displaces, broom has little value for native wildlife. Because of the density of the infestations, broom can discourage access by wildlife even into areas that would otherwise provide forage or other resources. The control of broom is likely to produce a net benefit for native wildlife species.

Special Status Wildlife Species

Impacts could result from the application of herbicides in or adjacent to valley elderberry longhorn beetle habitat. Impacts including loss of host plants could be associated with the use of herbicides, their derivatives, or their dispersants. In addition, direct mortality to the beetle can occur if herbicide treatment occurs when dispersing and breeding adults are present (i.e.: during the flight period – late March through June). These potential effects will be avoided, mitigated or reduced due to the Project Design Features listed below:

- Backpack spraying of broadleaf herbicide for target plants greater than 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
- Cut stump and swipe targeted application of broadleaf herbicides for target plants between 5 feet and 20 feet from an elderberry shrub with stems greater than 1 inch in diameter at ground level.
- Hand pulling, including weed wrenches, of target plants within 5 feet of elderberry shrubs with stems greater than 1 inch in diameter at ground level.

The BLM has determined that the proposed action may affect, but is not likely to affect (NLAA) the valley elderberry longhorn beetle. The BLM has informally consulted with the FWS and received

FWS concurrence with the NLAA determination via e-mail dated March 21, 2014. The FWS required the above Project Design Features to reach a NLAA determination.

Visual Resources

The proposed action is in line with BLM's VRM class III management objective which is to partially retain the existing character of the landscape.

4.2 Impacts of the No Action Alternative

Cultural Resources

Cultural resources would not be affected because there would be no weed control work under this alternative.

Human Health and Safety

There would be no weed control, either manual or physical, under this alternative so human health and safety would be unaffected.

Hydrology and Water Quality

Grizzly and Rattlesnake Creek would not be affected by the No Action Alternative.

Invasive Species

Broom would not be controlled under this alternative using either physical or chemical control methods; therefore, it would continue to produce seed and expand its range. Native plants would be displaced and wildlife habitat and forage would be impacted.

Soils

There would be no weed control under this alternative so soils would be unaffected.

Vegetation

Native plant species would continue to be displaced by the broom and the density of the broom populations would make regeneration of most other plant species difficult or impossible.

Visual Resources

Visual resources would not be impacted under this alternative.

Wildlife

Because there would be no weed control implemented under this alternative, brooms would continue to form dense stands that most wildlife find impenetrable and unpalatable.

4.3 Cumulative Impacts

The Priest Grade/Highway 120 corridor will continue to be heavily traveled and adjacent lands will continue to be used by residents and visitors in the future. Humans have contributed, and will continue to contribute to, the broom infestations on BLM and other lands within this area by acting inadvertently as vectors for weed introduction and spread. The cumulative impact of controlling broom on not only BLM land but also on Forest Service, State, County and private lands in this area would be synergistic in terms of weed control. Because there is steady vehicle traffic between BLM lands and other Federal, State, County and private lands, it is important that weeds on all of these areas be addressed simultaneously. With a
comprehensive program, lands in this area could effectively contain and control existing weed populations and prevent invasions in new areas where no control is being attempted, or control is spotty.

5.0 Agencies and Persons Consulted

Scott Oneto, Farm Advisor/Director, University of California Cooperative Extension, Central Sierra - Serving Amador, Calaveras, El Dorado and Tuolumne counties

Doug Johnson and Dana Morawitz, California Invasive Plant Council (Cal-IPC)

5.1 BLM Interdisciplinary Team

Reviewers:

/s/ James Barnes *3/26/14*

_____

NEPA Coordinator/Archaeologist

/s/ Jeff Horn *3/25/14*

_____

Outdoor Recreation Planner/VRM Specialist

/s/ Beth Brenneman *3/25/14*

_____

Botanist

/s/ Peggy Cranston *3/25/14*

_____

Wildlife Biologist

5.2 Availability of Document and Comment Procedures

This EA, posted on Mother Lode Field Office's website (www.blm.gov/ca/motherlode) under Information, NEPA (or available upon request), will be available for a 15-day public review period. Comments should be sent to the Mother Lode Field Office, 5152 Hillsdale Circle, El Dorado Hills, CA 95762 or emailed to us at bbrennem@blm.gov.

6.0 References

California Invasive Plant Council (Cal-IPC). http://www.cal-ipc.org/ip/management. Website accessed on November 30, 2011 and February 6, 2012.

Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW). 2003. A national early detection and rapid response system for invasive plants in the United States. Washington, D.C.

Oneto,S.R., G.B. Kyser and J.M. DiTomaso. 2010. Efficacy of Mechanical and Herbicide Control Methods for Scotch Broom (*Cytisus scoparius*) and Cost Analysis of Chemical Control Options. Invasive Plant Science and Management. 3:421-428.

Oneto, S.R. 2009. Brooms. Pest Notes. Publication 74147. University of California Cooperative Extension, Tuolumne County, California. 5 pp.

U.S. Department of Interior Bureau of Land Management (BLM).

1996. Partners Against Weeds: An Action Plan for the Bureau of Land Management. Washington, D.C.

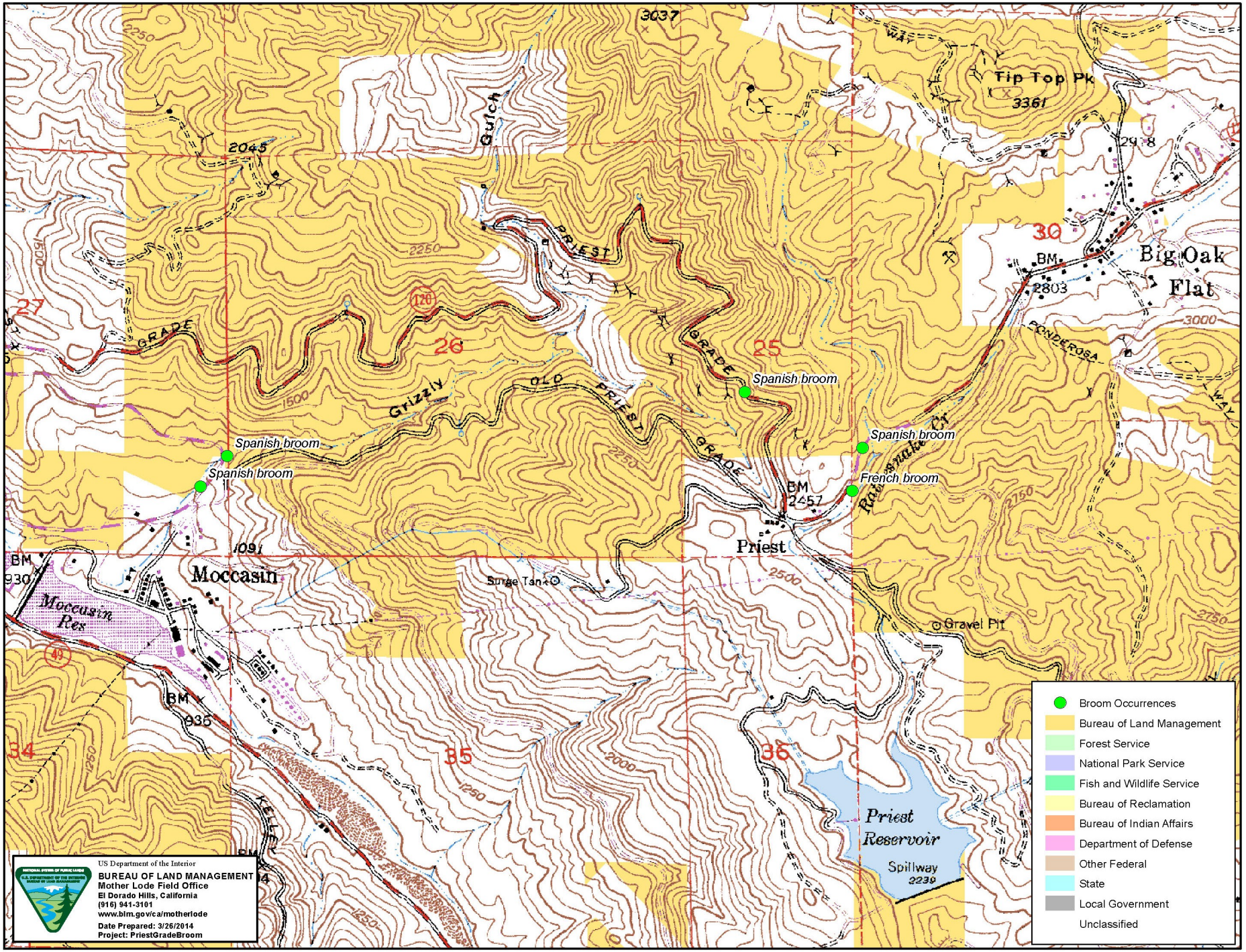
1998. Pulling Together: National Strategy for Invasive Plant Management. Washington, D.C. Accessed at: http://www.blm.gov/weeds/PullingTogether/PullingTogether.htm.

2007a. Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States, Final Programmatic Environmental Impact Statement (PEIS). Reno, Nevada.

2007b. Vegetation Treatments on BLM Lands in 17 Western States, Final Programmatic Environmental Report (PER). Reno, Nevada.

2008. Sierra Resource Management Plan and Record of Decision. BLM Folsom Field Office, Folsom, California.

Priest Grade Broom Occurrences on or near BLM Lands



T1S

T1S

R15E

R16E